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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,068	12/05/2003	Jeffrey Merwin	76288-88036	9191
22807	7590	12/07/2005	EXAMINER	
GREENSFELDER HEMKER & GALE PC SUITE 2000 10 SOUTH BROADWAY ST LOUIS, MO 63102			WEST, PAUL M	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/729,068	Applicant(s) MERWIN, JEFFREY	
	Examiner Paul M. West	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-4, 11 and 21 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10 is/are allowed.
- 6) ☒ Claim(s) 5, 7, 12-15 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 6 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02052004, 01202005, 0316 2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 12 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. As to claim 12, "the water" in line 8 of the claim lacks antecedent basis in the claim.
4. As to claim 15, "the periodic signal" lacks antecedent basis in the claim.

Claim Objections

5. Claims 13-20 are objected to because of the following informalities: Claims 13-20 all contain the word "accord" which should be written --according--. Additionally, in claim 17, the words "having a" in the second line of the claim should be omitted. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over John (4,263,587) in view of Raphael (5,546,009).

8. As to claim 5, John teaches an apparatus comprising: signal generating circuitry capable of introducing a level-determining signal into a fluid-containing space 30 such that the level-determining signal is present for sensing within fluid at a predetermined level if, and only if, the fluid level is at least as high as the predetermined level; probe 34 and probe responsive circuitry 36 capable of sensing the presence of the level-determining signal within the fluid at the predetermined level, wherein the probe is configured for being inserted into the fluid-receiving space 30 at the predetermined level; and control circuitry 20,21 capable of providing a control function in response to whether the level-determining signal is so sensed, in order to indicate whether the fluid has a level at least as high as the predetermined level, whereby the control function may be used for alarm or cutoff purposes if the fluid shifts relative to the predetermined level (Col. 2, lines 47-51), the level-determining signal being transmitted through the fluid in the fluid-receiving space according to the value of electrical conductivity of the fluid. John does not teach the system including a provision for selectively adjusting the sensitivity of the probe-responsive circuitry according to a predetermined threshold of the value of the conductivity. Raphael teaches an apparatus for sensing the presence of absence of a fluid at a predetermined level by detecting with a probe 16,17 a signal transmitted through the fluid and based on the electrical conductivity of the fluid, whereby a provision is included for selectively adjusting the sensitivity of probe-responsive circuitry according the value of the conductivity of the fluid (Col. 9, lines 50-

Art Unit: 2856

59). It would have been obvious to one of ordinary skill in the art to combine the teachings of Raphael with the apparatus of John because adjusting the sensitivity allows the apparatus to be used with a larger and more diverse array of fluids while maintaining accurate measurements.

9. As to claim 7, John teaches a the probe-responsive circuitry comprising detector circuitry 36 operatively associated with the probe for receiving and determining the level-determining signal.

10. Claims 12-14 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over John in view of Raphael and Murray et al. (6,688,329).

11. As to claims 12 and 17-20, John teaches a method comprising the steps of: introducing a signal into a fluid-receiving space 30 such that the signal is present for sensing within fluid at a predetermined level, the signal being transmitted through the fluid receiving space 30 according to a value of electric conductivity of the fluid; providing a probe 34 at the predetermined level for sensing the signal; sensing for the presence of the signal within the fluid at the predetermined level; and providing a control function in response whether the signal is so sensed, in order to indicate whether the fluid is or is not present at the predetermined level wherein the control function is an indication that fluid is lower than the predetermined level (Col. 2, lines 47-51) and establishing a delay on make or a delay on break time for indicating that fluid is lower than the predetermined level (Col. 1, lines 62-68). John does not teach using a

microprocessor to control functions of the apparatus, nor does John teach selectively adjusting the sensitivity of the probe.

12. Raphael teaches a method for sensing the presence or absence of a fluid at a predetermined level by detecting with a probe 16,17 a signal transmitted through the fluid and based on the electrical conductivity of the fluid, and for selectively adjusting the sensitivity of probe-responsive circuitry according the value of the conductivity of the fluid (Col. 9, lines 50-59). It would have been obvious to one of ordinary skill in the art to combine the teachings of Raphael with the method of John because adjusting the sensitivity allows the apparatus to be used with a larger and more diverse array of fluids while maintaining accurate measurements.

13. Murray et al. teach a method for determining whether a fluid is at a predetermined level in a fluid-receiving space in which a microprocessor is used to control sensing and control functions as well a delay on make or delay on break time (Col. 3, lines 66-67; Col. 4, lines 1-10). It would have been further obvious to combine the teachings of Murray et al. with the method of John because it is well-known that microprocessors allow for more accurate and efficient operation of measurement processes.

14. As to claim 13, John teaches using a signal-responsive probe 34 inserted into the fluid-receiving space 30 at the predetermined level.

15. As to claim 14, John teaches using an AC signal which is of a periodic nature (Col. 1, lines 36-41).

Allowable Subject Matter

16. Claims 8-10 are allowed.
17. As to claims 8-10, the combination of John and Raphael teaches all the limitations of the claims except for a bipolar signal and multiple networks or pathways for responding to different polarities of the bipolar signal. This limitation in combination with the other limitations of the claims, renders the claims allowable.
18. Claims 6 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
19. Claim 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

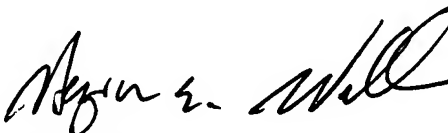
20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note that Kachuck et al. (3,922,564) teaches adjusting the sensitivity of a detection signal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul M. West whose telephone number is (571) 272-8590. The examiner can normally be reached on Monday-Friday.

Art Unit: 2856

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800